

The botanical collections of William Hann's Northern Expedition of 1872 to Cape York Peninsula, Queensland

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Summary

Dowe, J.L. & Taylor, P.I. (2019). The botanical collections of William Hann's Northern Expedition of 1872 to Cape York Peninsula, Queensland. *Austrobaileya* 10(3): 506–538. William Hann's Northern Expedition, 26 June–12 November 1872, was primarily undertaken to explore for gold, minerals and pastoral lands, and to ascertain suitability for settlement in the southern Cape York Peninsula area. In addition to the primary objectives, both botanical and palaeontological specimens were collected. The official botanical collector for the expedition was Thomas Tate who collected on behalf of the Queensland Government under the direction of William Hann. A total of 81 specimens collected by Tate during the expedition have been located. In contrast, an ‘unofficial’ collection of plants was gathered by Norman Taylor, geologist for the expedition. A total of 68 specimens collected by Taylor have been located. Ten new taxa were established on specimens collected during the expedition. Largely, the expedition remains more of historical interest rather than a significant contribution to the advancement of botany in Queensland.

Key Words: Queensland flora; botanical specimens; early exploration; Ferdinand Mueller; Norman Taylor; Thomas Tate; William Hann

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Introduction

The settlement of Queensland by colonists in the mid-late 1800s was preceded by exploration parties that mainly reported on the suitability for pastoral activities, available resources and potential settlement. Many exploration parties included botanists and geologists amongst their members, as scientific exploration was seen as a way to further understand the capabilities of the country and to legitimise activities with regard to colonial and government expectations. William Hann's Northern Expedition of 1872 to Cape York Peninsula had the object of ‘ascertaining, as far north as the 14th parallel of latitude, the character of the country and its mineral resources, with the view to future settlement and occupation’

(Hann 1872). The expedition was authorised and partly funded by the Queensland Government, with Hann providing the horses and sheep, and significant personal funds¹. The party consisted of seven men: William Hann (1837–1889), leader; Dr Thomas Tate (1842–1934), botanist and naturalist; Norman Taylor (1834–1894), geologist; Frederick Horatio Warner (1842–1906), surveyor; William Robert Stewart (known as Peak Downs Stewart), an ex-squatter, Justice of the Peace and magistrate²; William Nation (1818–1874), friend of Hann, pastoralist and bushman; and Jerry, an Aboriginal (Ellwood 2014, 2018). They took 25 horses, 20 sheep and provisions for five months (Hann 1873, 1874; Clarke 1982).

This paper examines the botanical significance of the expedition with documentation of the material collected with respect to its distribution to various

herbaria and identification of species. Themes covering collection attribution, taxonomy, eponomy and the personal relationships of the expedition members are also examined.

Materials and methods

Documents related to Hann's Northern Expedition were located in a number of libraries. Materials in James Cook University and John Oxley libraries were personally examined, whilst items from other libraries were received as digital scans or hard-copy reproductions. Herbarium specimens related to the expedition were located on the available online resources: the primary web sites visited were the *Australasian Virtual Herbarium* (AVH 2019), *JSTOR Global Plants* (JSTOR 2019) and *Kew Herbarium Catalogue* (2019). The databases MELISR [MEL] and HERBRECS [BRI] were examined: the specimens at BRI were personally examined whilst others were received as digitised scans. Trove's digitised newspapers were searched for relevant items (Trove 2019). Herbarium acronyms follow *Index Herbariorum* (2019).

Summary of the Expedition Route

Hann's Northern Expedition commenced at Fossilbrook (**Fig. 1**), an outstation of Ezra Firth's Mt Surprise Station which was the most northerly extent of settlement (Black 1931), on 26 June 1872, following Fossilbrook Creek until its junction with the Lynd River. The expedition headed north through Kirchner Range before reaching the Tate River. Upon leaving the Tate River heading north, the headwaters of Nonda Creek were met and it was tracked downstream to the Walsh River which was followed meeting the junctions with it of Elizabeth and Louisa Creeks. Heading north, the Mitchell River was met with, and it was explored both upstream and downstream for considerable distances, before the expedition headed north to Garnet Creek and Palmer River. Here members extensively prospected for gold discovering alluvial gold at many locations. From the Palmer, the expedition headed north-west to reach Coleman River and then Stewart River and Princess Charlotte Bay, the most northern extent of the expedition. From

here the expedition headed south crossing the floodplains of Kennedy River. Moving to the south-east, the expedition met with the Normanby River which was followed upstream to its headwaters in Normanby Range. The first fall of eastern streams was located in Cunninghams Range, the stream named as Oaky Creek by Hann, a tributary of the Annan River. The Annan River, which Hann mistakenly thought was the Endeavour River, was followed downstream to Walker Bay. Heading south in an attempt to get to Cardwell by a coastal route, the expedition encountered the Bloomfield River and mountains covered in dense, 'impenetrable' rainforest. Thwarted by such a barrier to a southern track, the expedition retraced its route to the north and duly headed west toward drier and open forests. The Laura River (named as the Hearn River by Hann) was met and followed downstream, before a turn to the south-west took the expedition to Palmer River, and more or less tracking on their original route terminated the expedition at Junction Creek Telegraph Station on 12 November 1872³.

Botanical collections of the Northern Expedition

Surviving documents and notes associated with the specimens indicate that at least three of the expedition party, Hann, Tate and Taylor were involved with collecting botanical specimens (**Fig. 2**). For the expedition, general geology was a primary consideration, in particular prospecting for gold, whilst botany was a secondary consideration. Although the expedition did not find what they considered was payable gold, it is credited with the discovery of gold at Palmer River which, after more thorough exploration (Mulligan 1875), soon after was the subject of a 'rush'⁴ and proved to be amongst the largest and most valuable gold deposits in Queensland (Kirkman 1980; Comber 1995).

There appears to have been no formal instructions provided by the Queensland Government with regards to how botanical specimens were to be collected during

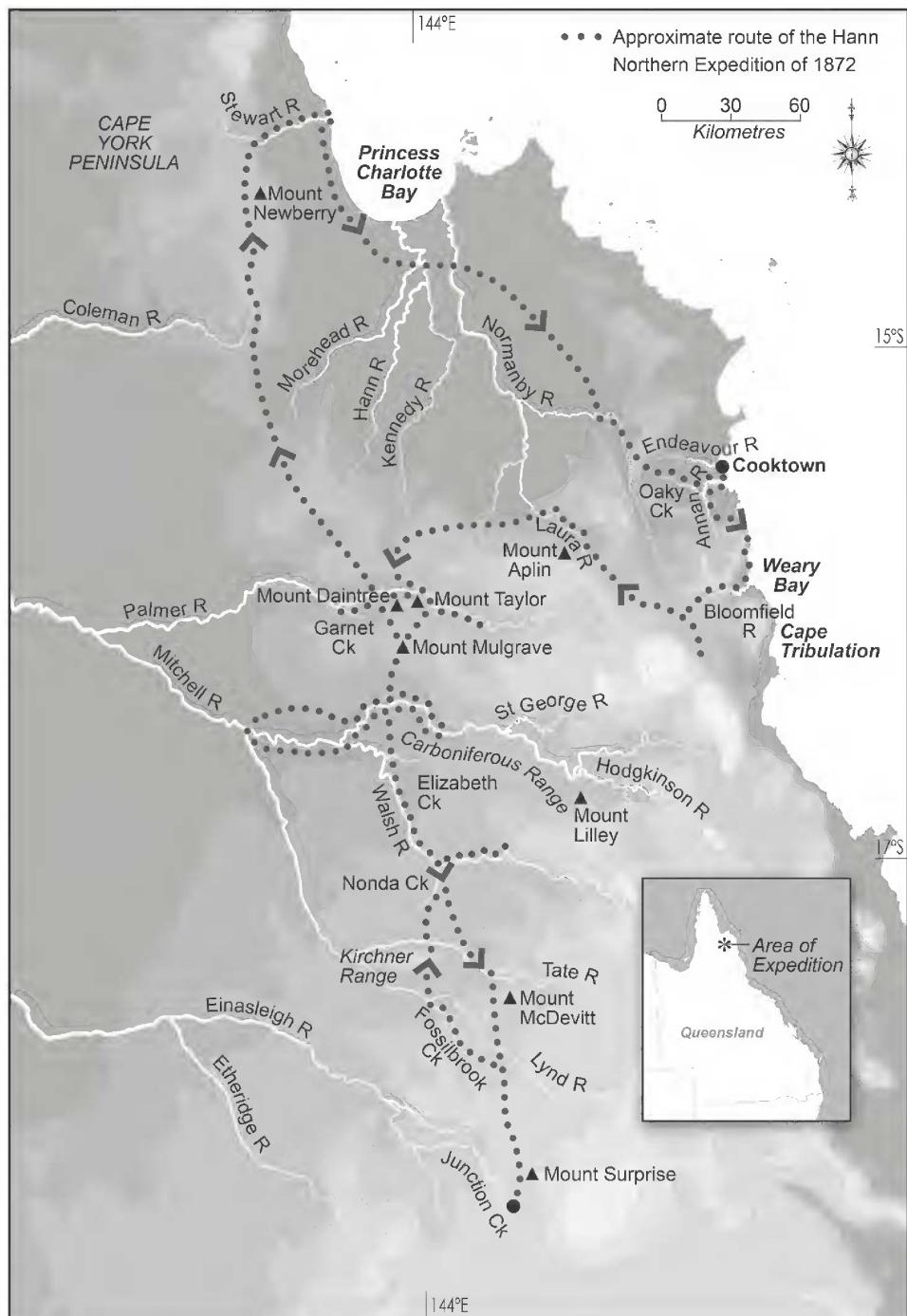


Fig. 1. Map of the approximate route of Hann's Northern Expedition, 1872.



Fig. 2. Four members of Hann's Northern Expedition, c. 1872. William Hann (seated left), Frederick Warner (standing left), Thomas Tate (standing right), Norman Taylor (seated right).

the expedition, with the activity under the command of Hann who delegated specifically to Tate as he was nominally responsible for collecting, numbering, labelling, transporting and managing the botanical collections. The specimens collected by Taylor were his sole responsibility seemingly independent of the expedition plan and collected on behalf of Ferdinand Mueller, Victorian Government Botanist. The collections are herein named as the ‘Tate specimens’ or the ‘Taylor specimens’, as both sets remained separate and had different outcomes and destinations. Unless specifically recorded as being collected by Hann, specimens with the broad designation of ‘Hann’s Expedition’ or similar are considered here to have been collected by Tate.

The total number of known specimens that were collected by both Tate and Taylor during the expedition is 149. These are housed in the Natural History Museum, London (BM - 1), Queensland Herbarium (BRI - 16), Royal Botanic Gardens Kew Herbarium (K - 65) and National Herbarium of Victoria (MEL - 67). Single photos of specimens in K are held in the Department of Environment and Natural Resources Herbarium, Darwin (DNA) and Western Australian Herbarium (PERTH). The taxonomists who predominantly worked on the specimens or cited them in their works were Mueller (1872–1874, 1875, 1876–1877, 1878–1881), Bentham (1873, 1878), Bailey (1879, 1886, 1899–1902), Baker (1893) and Domin (1914–1915, 1921–1930).

During the expedition, diaries recording their day to day progress and activities were maintained by Hann, Tate and Taylor; however that of Taylor was reported lost soon after the termination of the expedition and has not been located. Information about the expedition is therefore sourced from the records of only Hann and Tate. Annotated extracts, regarding botanical observations, place name etymology and important events, are presented below. From an historical perspective, the botanical collections proved to be overall limited, but some noteworthy additions to the taxonomy of the Cape York flora resulted (**Table 1**). Only minor

biographical details are included in this paper, but for extended accounts of William Hann see Black (1931), George (2009) and Bolton (2019); for Thomas Tate see Pearn (2000, 2001) and George (2009); for Norman Taylor see Darragh (1992) and George (2009); and for Frederick Warner see Gray-Wood (2009). Thomas Tate was the cousin of botanist and geologist Ralph Tate (1840–1901), Professor of Natural Science at the University of Adelaide 1875–1901 (Kidman 2013)⁵.

The Thomas Tate botanical specimens

Following his departure from England in 1865⁶, Thomas Tate spent a number of years in New Zealand before arriving in Melbourne prior to 1870⁷. Previously he had undertaken three years of medical training at the University of Edinburgh and had adopted the title ‘Doctor’. He was employed in a number of medical positions, such as ship-surgeon and dispenser, as well as trying his luck at gold prospecting⁸. This latter activity led him to join the ‘New Guinea Prospecting Expedition’ on the Brig *Maria*, where he was to act as doctor⁹. The *Maria* departed Sydney on 25 January 1872. The intention was to sail to New Guinea to establish a settlement to prospect for gold (Cumbrae-Stewart 1917). However, the *Maria* was wrecked on Bramble Reef to the east of Hinchinbrook Island on 26 February, 1872. Tate was one of about 40 survivors from a complement of about 75 men (Forster 1872; Tate 1903; Rhodes 1980)¹⁰. Remaining in Cardwell after this event, he came to the attention of William Hann who was then organising the Northern Expedition and Tate was appointed as naturalist and botanical collector for the expedition (Hann 1872; Bailey 1891; Anon. 1918; Ross 2003).

There is no evidence to indicate that Tate had engaged in any botanical collecting in Australia prior to the expedition, and that this was his first experience of such activities in this country. Documents associated with the planning of the expedition do not reveal how or why a dedicated botanical collector was included in the expedition party. It can be deduced that the decision was made by William Hann based on contact with Walter Hill, Queensland’s Colonial Botanist. An

Table 1. New taxa described from specimens collected by Thomas Tate and Norman Taylor during Hann's Northern Expedition of 1872. Currently used names are in bold type.

Abutilon hannii Baker f., <i>J. Bot.</i> 31: 268 (1893). Type: 'Hab. Queensland. Cape York Peninsula Exp., W.Hann, No. 76!' [= <i>T. Tate</i> 76] (holo: K 000659610).
<i>Acacia hanniana</i> Domin, <i>Biblioth. Bot.</i> 22(89): 807 (1926). (= Acacia victoriae Benth.). Type: 'Nord-Queensland: Cape York, W.Hann, Cape York Peninsular Expedition No. 59' [= <i>T. Tate</i> 59] (holo: K 000791808).
<i>Agapetes queenslandica</i> Domin, <i>Repert. Spec. Nov. Regni Veg.</i> 12: 132 (1913) (= Paphia meiniana (F.Muell.) Schlr.). Type: 'North-Eastern Queensland: Cape York Peninsular Expedition, coll. W.Hann sub. no. 315' [= <i>T. Tate</i> 315] (holo: K 000780935).
<i>Bulbophyllum taylori</i> F.Muell., <i>Fragm.</i> 8(65): 150 (1874), as ' <i>Bulbophyllum taylori</i> ' [= Cadetia taylori (F.Muell.) Schlr.]. Type: 'Ad flumen Blomfield's River in silvis densis; Norman Taylor, cui species dicata' (holo: MEL 1540845).
<i>Distichostemon malvaceus</i> Domin, <i>Biblioth. Bot.</i> 22(89): 913 (1927) [= Dodonaea malvacea (Domin) M.G.Harr.]. Type: 'Nordost-Queensland: Cape York, W.Hann, Cape York Peninsular Expedition No. 60, No. 207' [= <i>T. Tate</i> 207] (syn: K 000701401, K 000701402).
<i>Lagerstroemia subsessilifolia</i> Koehne, <i>Pflanzenr.</i> 17: 267 (1903) [= Lagerstroemia archeriana F.M.Bailey]. Type: 'Australien: Kap York-Halbinsel (oberer Teil von Mitchell Seed in bag, in bergigem Gebiet, W.Hann n. 47)' [= <i>T. Tate</i> 47] (holo: K 000729689).
<i>Owenia capitis-yorkii</i> Domin, <i>Biblioth. Bot.</i> 22(89): 854 [= Owenia vernicosa F.Muell.]. Type: 'Nord-Queensland: Cape York, W.Hann, Cape York Peninsular Expedition No. 115' [= <i>T. Tate</i> 115] (holo: K 000657892).
<i>Pongamia pinnata</i> var. <i>hannii</i> Domin, <i>Biblioth. Bot.</i> 22(89): 787 (1926) [= Pongamia pinnata var. <i>minor</i> (Benth.) Domin]. Type: 'Cape York Penin. Expedition. Comm. Queensland Government, Dec. 1873, W.Hann 274' [= <i>T. Tate</i> 274] (lecto: K 000618771, <i>fide</i> Cooper et al. 2019).
<i>Psoralea spicigera</i> Domin, <i>Biblioth. Bot.</i> 22(89): 740 (1926) [= Cullen spicigerum (Domin) A.E.Holland]. Type: 'Nordost-Queensland: Cape York, W.Hann, Cape York Peninsular Expedition No. 40' [= <i>T. Tate</i> 40] (lecto: PR; isolecto: K 000217498, <i>fide</i> Holland 2013: 140).
<i>Stravadium denticulatum</i> Miers, <i>Trans. Linn. Soc. Lond.</i> , ser. 2 1(2a): 88 (1875) [= Barringtonia acutangula (L.) Gaertn.]. Type: 'In Australia: v.s. in hb. Hook. Cape York (Hann 195)' [= <i>T. Tate</i> 195] (syn: K 000761580, BM 001015973).

entry in one of Hann's diaries indicates that he met with Hill in Brisbane in February 1872¹¹. The Queensland Government may have anticipated that scientific results would be beneficial, but no documentation to this effect has been located.

Despite Tate's lack of experience, the quality of his specimens (at least of those which survived and have been located) was adequate with most including either flowers or fruit and well-prepared vegetative parts (Fig. 3). However, the low number of surviving

specimens suggests that drying, packing and transport were not approached with adequate care. Tate's interests during the expedition, as expressed in his own words in his diary, were mostly to do with gold prospecting, Hann's strictness regarding food rationing and natural history rather than botany (Tate 1872). As suggested by Sanderson (2005), Tate 'displayed little scientific enthusiasm'. Examination of his diary reveals only passing references to botanical descriptions or identifications, and he expressed no apparent

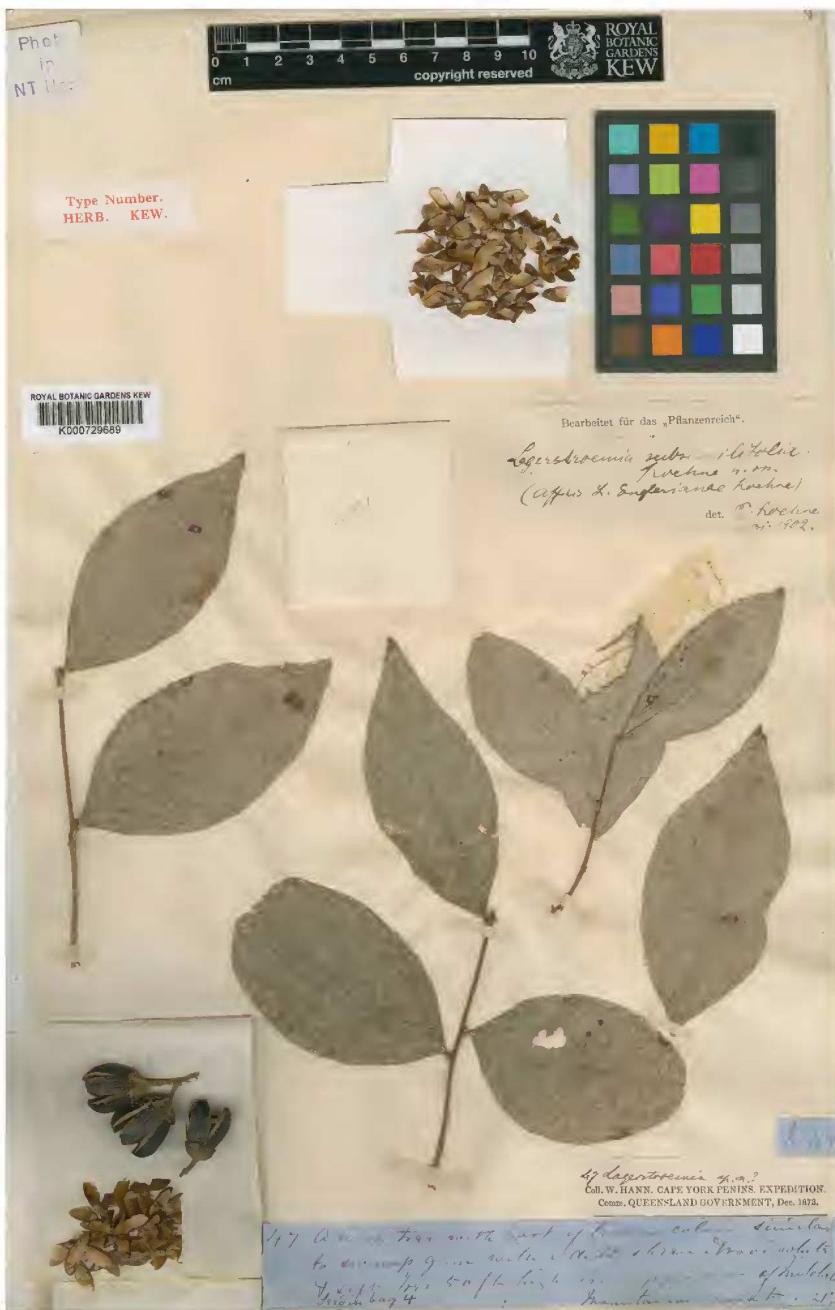


Fig. 3. Type specimen of *Lagerstroemia subsessilifolia*, Mitchell River, 21 July 1872, Tate 47 (K 000729689). Field label reads: 'A large tree with bark of leaden colour similar to swamp Gum with a dull sheen. Wood white & soft Tree 50 ft high from upper part of Mitchell seed in bag 4 mountainous country 21st'. Reproduced with permission from Herbarium, Library, Art & Archives, Royal Botanic Gardens, Kew.

interest in, or knowledge of the botany of the areas through which the expedition travelled.

A scrutiny of the Hann's expedition diaries and subsequent correspondence suggests that the party was a somewhat dysfunctional group of expeditioners, harbouring wilful disagreements and ongoing animosities. Hann clashed with most of the expeditioners at various times¹², and he was noted as having a brash and dominant personality. Both Tate and Taylor (see below) were reported as 'difficult' by Hann during the expedition¹³. Tate was accused of being selfish and self-centred. With regard to food rations, Hann (16 Aug.) wrote, '... both he [Taylor] and the Doctor [Tate] were complaining of not getting enough flour ...' (Clarke 1982). He furthermore wrote of Tate's selfishness: '... I spoke rather sharply to him and told him about his always taking more than his share of everything ...'. Tate (1872) reported on this situation and noted that 'we had been on half rations, and during the last six or seven weeks of the trip we were glad to eat snakes, lizards, white ants, &c.'. Although Hann was not forthcoming about his opinion of his fellow expeditioners in his official expedition reports, there was little doubt of his opinions of them in his note books and diary. Hann (1872) alluded to them diplomatically:

there were one or two members of my party who considered exploring monotonous; they ate their suppers and went to bed dreaming of their breakfasts – they rose in the morning, ate their breakfasts, and then passed the day thinking of their suppers! Is comment on such men necessary?

Upon termination of the expedition, Tate spent time at Hann's Maryvale Station arranging the specimens¹⁴ before they were sent to William Henry Walsh, the Secretary for Public Works in the Queensland Government, as accompanying items for Hann's final report and diaries (Hann 1872). There is no mention in Walter Hill's *Brisbane Botanic Gardens Annual Report* (Hill 1873) of him receiving or having seen the expedition specimens in any official capacity and it appears that the specimens were most likely held by the

Department of Public Works in Brisbane until they were despatched in early-mid 1873 to Queensland's Agent-General in London, Richard Daintree, who then sent them on to George Bentham at Kew Herbarium. Daintree, a renowned geologist and photographer, had arrived in England in 1871 to curate an exhibition of geological specimens on behalf of the Queensland Government in the London International Exhibition and the following year was appointed Agent-General, a position he held until 1876 (Mozley 1965).

Documentation related to the specimens, held in the Kew archives, includes two letters and three lists of species' identifications. The letters were written by Daintree to Bentham and the lists of identifications were prepared by Bentham and fellow Kew botanist John Gilbert Baker. The specimens were received by Kew in early December 1873 as reported in one of the letters from Daintree to Bentham:

(9 Dec. 1873) I am instructed by the Minister for Works, to forward these to you, for the purpose of furthering your great work on Australian botany. If after completing your investigation of them, you can make a duplicate set to return to the colony, the remainder could be retained in your herbarium...if there should be sufficient new and interesting forms among the plants now forwarded to you, perhaps you might make them the subject of a short paper, to the Linnean or other Society, so that all the scientific results of the expedition might be known and disseminated through the Colony ... the botany of the higher peaks of the Coast Range could not fail to be interesting.¹⁵

In a response to a letter (not located), presumably from Bentham about the specimens, Daintree replied:

(16 Dec. 1873) I regret to learn that the collection is on the whole so unsatisfactory that I believe there is no duplicate retained in the Colony, neither do I think this or a duplicate series has been submitted to Baron von Mueller. Under the circumstances I should prefer leaving the matter entirely in your hands. It was made

in the interest of botanical science, and is at your service. I would suggest however that your proposal to have a list of the specimens made out should be carried out in order that I may send it on to the Colony as I feel sure that Baron Mueller has not anticipated this favour.¹⁶

The identification lists provided by Bentham and Baker included specimens intermittently numbered 9 through to 379¹⁷. Because of unaccounted specimens, the total number actually identified by Bentham and Baker, according to their lists, was only c. 250 specimens. Of these, about 235 were identified by Bentham and an additional short list prepared by Baker included the names of 14 ferns and monocots only¹⁸. The discrepancy between collection numbers and actual specimens can most likely be accounted for by damage to, or loss of, individual specimens either in the field or in storage upon return of the specimens to Brisbane. Only 65 specimens are accounted for in the Kew Herbarium Catalogue. Whether this is an indication of the total number of surviving specimens or if the others are not recorded is not able to be determined. It has to be assumed that specimens were discarded, deteriorated or otherwise misplaced over time.

The specimens at Kew all have a printed label ‘Coll. W. Hann. Cape York Penins. Expedition. Comm. Queensland Government, Dec. 1873’ (Fig. 4), but do not include the

actual collector’s name. The specimens with this label can be unequivocally attributed to Tate as it was his primary responsibility to collect botanical specimens during the expedition. His other responsibilities included naturalist, medical officer and logistics duties. However, some of the specimens have field labels in the hand-writing of both Tate and/or Hann. There is some evidence in Hann’s diaries that he also collected plant specimens for Tate but the specimen numbers appear to be solely in Tate’s hand-writing and observations and descriptions only occasionally in Hann’s hand-writing. It has not been possible to determine who prepared the specimens for despatch from Brisbane to London apart from the ‘Department of Public Works’. It is most likely that the printed labels were prepared in London by Daintree as specimens held in BRI do not have this label. This is also supported by the date on the labels, ‘Dec. 1873’, which is when the specimens arrived in London and does not represent the actual field collection dates (some of which are known) or despatch date (which is unknown) from Brisbane. Many of these printed labels have the species names added in Bentham’s hand-writing (Fig. 4). These invariably match with the names in Bentham’s and Baker’s hand-written species lists, both in name and in citing Tate’s field collection numbers. Although Daintree requested that copies of Bentham’s identification lists be sent to Australia, either to Brisbane or to Mueller in Melbourne, there is no evidence of these having been received.

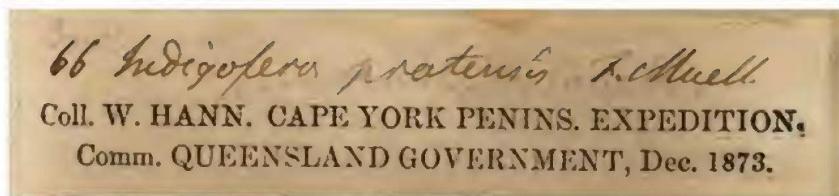


Fig. 4. Example of the labels on the specimens at K, with species identification in the hand of George Bentham. *Indigofera pratensis*, Palmer River, 12 August 1872, Tate 66 (K 000217340). Reproduced with permission from Herbarium, Library, Art & Archives, Royal Botanic Gardens, Kew.

Independent to these activities was the communication between Ferdinand Mueller and Joseph Hooker, Director of Kew Gardens, and which related to the Hann Expedition specimens. In correspondence of 25 March 1873, Mueller wrote to Hooker:

the hon. W. H. Walsh, the Minister of the Lands Department of Queensland, would have sent me a set of Dr Tate's plants from Mr Hann's recent expedition in the extremest N.E. of Australia, had my wish become timely known to the hon. Gentleman.¹⁹

This suggests that Mueller may have requested from Walsh the specimens, or duplicates of them, for the Melbourne Herbarium. However, he was now making a request to Hooker for a set of duplicates on the assumption that the specimens had been sent to Kew:

You can easily understand that I am anxious to keep the Australian material for working here as complete as circumstances ever will permit; and I venture therefore to ask you, whether with your usual liberality you will let me have a set of any of the duplicates.

Hooker annotated this letter with the words 'not arrived', thus indicating that the specimens had yet to arrive at Kew but may have still been in transit. Hooker appears to have responded to Mueller (though no letter located) indicating that when available, he will organise a set of duplicates as noted in a subsequent responding letter from Mueller to Hooker of 8 September 1873 in which he wrote:

It is very kind of you, dear Dr Hooker, that you will send me a set of Dr Tate's plants. It is of course important for me, that I should have here the Australian material for working as complete as possible.²⁰

Despite this, there is no evidence that duplicates were sent to Mueller, nor was a list of the species as identified by Bentham and Baker received by him. Pearn (2000) suggested that some of the specimens were returned to Joseph Maiden at NSW in the

1890s, but there is no documentary evidence to support this and no known specimens from this source are presently held in NSW (pers. comm., Shelley James, Collections Manager, NSW).

A small number of specimens (*c.* 16) are presently held in BRI. Most of the labels have the collection number in Tate's hand-writing and label variations such as 'Hann's Expedition', 'Hanns Exped' or 'Hanns Northern Expedition' in what appears to be Hann's hand-writing (**Fig. 5**). At least two of the BRI specimens have 'Brisbane. Museum Herbarium. Queensland' labels (**Fig. 6**). The hand-writing on these is as yet not identified but it appears not to be in the hand of F.M. Bailey. Bailey became officially involved in Queensland botany when the Queensland Museum appointed him as Keeper of the Herbarium in 1874 (Mather 1986). The BRI specimens lack any original field collection labels in contrast to the well-labelled specimens that were sent to Kew.

In 1874, Tate was appointed by the Queensland Education Department as a teacher and took up positions in Oakey, Jondaryan, Rocklea, Pialba, Normanton, Thursday Island and St. Lawrence, before retiring in 1913 to Rockhampton (Viator 1934)²¹. He continued to occasionally collect botanical specimens that are now held in BRI and NSW (AVH 2019). The Tate River (see **Fig. 1**) was named for him by Hann in his report of the expedition (Hann 1872). New species described on specimens collected by Tate are presented in **Table 1**.

The Norman Taylor botanical specimens

Norman Taylor arrived in Melbourne from England in February 1855²². He established himself as a respected and diligent geologist in Victoria and New South Wales (Newberry 1867, 1868; Taylor & Thomson 1871; Darragh 1992) and in April 1872 was appointed as geologist for Hann's Northern Expedition²³. Prior to the expedition, Taylor had some experience as a botanical collector and had provided specimens for Ferdinand Mueller as early as 1867 from the Coliban River/Bendigo area; from the Whittlesea/Mt Disappointment



Fig. 5. Example of the labels on specimens at BRI, with species identification in an unknown hand. *Melaleuca viminalis*, [Lynd River], s.dat., Tate 8 (BRI [AQ0418968]). Reproduced with permission from the Queensland Herbarium.

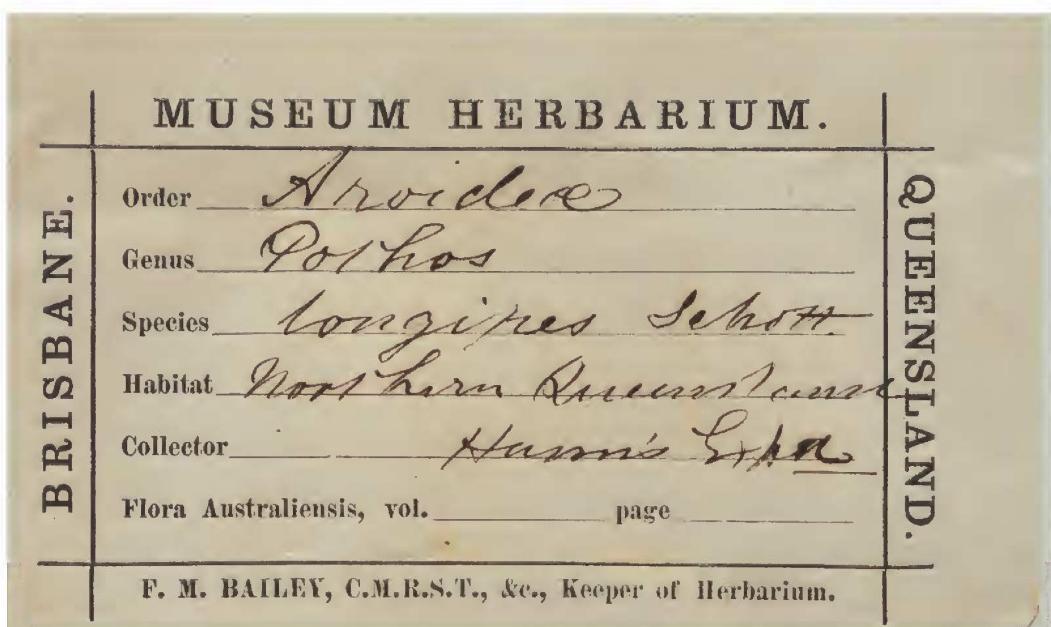


Fig. 6. One of two Tate specimens with a Museum Herbarium label. *Pothos longipes* Schott, [Annan River], s.dat., Tate s.n. (BRI [AQ0431166]). Reproduced with permission from the Queensland Herbarium.

area in 1868; and from the Mudgee area during 1871–72. He made further collections in the Riverina area in 1885. His pre-1872 collections were cited by Mueller in *Fragmenta phytographiae Australiae* and in Bentham's *Flora Australiensis*. The known specimens collected by Taylor during the Northern Expedition amount to 68 exsiccatae (67 in MEL, one in K). These consist mostly

of ferns (**Fig. 7**) whilst the angiosperms are mainly specimens of fruit and/or seeds (**Fig. 8**), of which most were supplied in folded paper bags annotated with 'For Herbarium, Norman Taylor' or similar. It is most likely that these were the retained samples of seeds of which the others were possibly used for propagation purposes at Melbourne Botanic Gardens. Taylor's specimens have no original



Fig. 7. Typical fern collection by Norman Taylor from Hann's Northern Expedition of 1872. *Tectaria confluens*, 'York Peninsula Q.L.', s.d., Taylor s.n. (MEL 2155618). Reproduced with permission from the Royal Botanic Gardens Victoria.



Fig. 8. Seeds collected by Norman Taylor. *Parinari nonza*, ‘York’s penins’, s.dat., Taylor s.n. (MEL 2226009). Reproduced with permission from the Royal Botanic Gardens Victoria.

labels apart from minor packet labelling, and many of the extant labels are in Mueller's hand-writing on his printed 'Phytologic Museum of Melbourne' labels (**Fig. 9**).



Fig. 9. Typical 'Phytologic Museum of Melbourne' specimen label. *Lygodium japonicum*, 'York's peninsulae' s.dat., Taylor, s.n. (MEL 2145232).

Upon termination of the Northern Expedition, Taylor travelled to Brisbane arriving on the *S.S. James Patterson* on 14 December 1872²⁴. It is not known where Taylor joined the voyage, but the vessel called at Cardwell, Townsville, Bowen, Mackay and Rockhampton before terminating in Brisbane. Taylor worked on his geological report whilst in Brisbane, completing it on 31 March 1873 (Taylor 1873). It appears he returned to Melbourne soon after, taking up a position in the Crown-Lands Office (Darragh 1992)²⁵. The first published report on Taylor's botanical specimens was published in March 1874 (Mueller 1874a), which included the description of the orchid *Cadetia taylori* (F.Muell.) Schltr. [as *Bulbophyllum taylori* F.Muell.], collected from Bloomfield River, and which was named to honour Taylor. In the same issue, Mueller (1874b) provided a brief account of Taylor's fern collections, which he commenced with '*Amicus Norman Taylor a flumine Endeavour-River vel a regionibus vicinis filices, quae sequuntur, attulit*' [A friend Norman Taylor collected the following ferns from the Endeavour River and its vicinities]. This note implies that they were established friends or at least close acquaintances prior to the expedition.

Unusually, a summary of Taylor's collections was provided in an article in the Sydney Morning Herald:²⁶

in the colony of New South Wales the Baron added several new plants to botanical science ... to those interesting facts, he [Mueller] adds, the discovery of a new orchid (*Bulbophyllum Taylori*) by Mr. Norman Taylor; ... Mr. Norman Taylor has recently sent specimens of ferns from the Endeavour River. They are not new to botanists, but the collection of them is very interesting as illustrating the geographical distribution of those graceful plants. Amongst the most remarkable of those not found in the neighbourhood of Port Jackson are three species of the climbing *Lygodium*; and the curious and variable fern *Ceratopteris thalictroides*, which grows in pools, salt water not far from the sea, and marshy places. Sir William Hooker, in his *Species Filicum*, has a long account of this strange plant, and he shows that the different forms of it, as existing in Asia, Africa, and America, are really one and the same species. In addition to those, Mr. Taylor collected two species of *Gleichenia*, one of *Davallia*, one of *Adiantum*, three of *Polypodium*, one of *Doodia*, two of *Asplenium*, two of *Aspidium*, and one of *Acrostichum*. Several of these will prove interesting to cultivators of ferns.

Bentham (1878), in his work on the Australian Filices, referenced at least 16 of Taylor's fern specimens from the expedition. Bentham's *modus operandi* was most often to reference specimens that he had personally examined, so it is possible that the specimens in question were examined by him at Kew prior to publication in 1878. None of the Taylor specimens presently held in MEL or K have any annotations in Bentham's handwriting. Bentham may have been quoting the species listed by Mueller in his *Fragmenta*. Despite this, there is a single specimen in K, identified as *Lindsaea brachypoda* (Baker) Solomon, labelled as a Taylor specimen 'York Peninsula N. Australia Coll. Norman Taylor

ex Herb. Mueller 9/77', but whether it was examined by Bentham is not known. A search of correspondence has not revealed any despatches or receipts between Mueller and Kew concerning Taylor's fern specimens and it remains unresolved if Bentham personally examined any Taylor specimens.

Taylor's geological and palaeontological collections from the expedition are the subject of current research by other authors and will not be addressed here in detail. However, of interest are the reports on the geological results that were prepared by Clarke (1873), Taylor (1873) and Jack (1921). There were no references to botanical collections in those reports although Taylor noted his disapproval of Hann who later took 'possession' of both his geological collections as well as Tate's botanical specimens²⁷. In addition, Taylor's contribution to surveying and geological collections was not attributed to him by Hann in a number of accounts²⁸. Taylor (1873) wrote:

I may mention here, in connection with this subject, that these fossils were taken from my possession in Brisbane, unpacked and repacked several times by Mr. Hann, thereby adding to the damage they had already received by travelling several hundred miles on pack-horses, and were sent to Sydney with a letter stating that they had been collected by Mr. Hann. I myself had collected fully one half [of the geological specimens], the rest being obtained by the other members of the party, and, as Geologist to the Expedition, I considered that all the fossils were mine, fully as much as that the botanical specimens collected by myself and others belonged to Dr. Tate as Botanist.

As noted above, there was considerable disharmony amongst some members of the expedition, but in particular between Hann, Taylor and Tate²⁹. Hann accused Taylor of being inattentive and grossly careless and wrote in his diary following the straying of horses and later the sheep under Taylor's watch: 10 Aug 'In the evening I remonstrated with Taylor showing him the folly of letting

the horse go in the manner he did and the trouble it had given me to get him'. Hann continued: 16 Aug 'warnings appear to have little effect on him; I was compelled on a former occasion to speak sharply with respect to fire ...' and 'both losses [horses and sheep] had occurred through carelessness'. Hann received criticism about his handling of the expedition. Taylor wrote a somewhat diplomatic letter of support, noting that Hann conducted himself 'in every way as a careful explorer, and thorough Bushman' and noted 'the able assistance you afforded me in my descriptions of Geological specimens obtained by you on your various divergent expeditions'³⁰. Later, Taylor expressed an extremely negative opinion of Hann in a letter of a more private deliberation to Rev. W.B. Clarke on 18 Sep 1873 (Moyal 2003: 973):

What I object to in your address is the way in which Hann is spoken of. You speak of him as a gentleman! of reasoning capabilities. Do you know that this so called gentleman was some years ago nothing more than an uneducated bullock driver ...Hann's marriage³¹ ... gave him a rise in social status ... now a Queensland squatter & J.P. – the latter qualification he is eminently unfit for ... the geological remarks in his diary were all obtained from myself ...this ignoramus contradicted me on all occasions & the result was endless quarrelling. I could not stand his impertinence, especially coming from a man who cannot write & barely read.

Taylor later wrote that the geological results from the expedition were rendered worthless because of the loss of his diary. He wrote to Rev. W.B. Clarke on 26 Feb 1874 (Moyal 2003: 1017):

Staiger [Karl Theodore Staiger, Custodian of Queensland Museum] tells me that my diary of the Expedition has been lost – another sample of their treatment. As it contains the references to all the rocks etc. brought down with numbers corresponding with those on the specimens, of course the specimens are now valueless, unless I

were to go over my original journal & send them particulars, which I certainly don't feel inclined to do. I am heartily sick of the name of the Expedition & all to do with it.

Although only one new species was described from Taylor's fern specimens (**Table 1**), they nevertheless represent an exemplary collection, especially of the Pteridophyte flora of the area between the Annan and Bloomfield rivers. Mount Taylor (**Fig. 1**) was named for him by Hann, the name appearing in the text as 'Taylor's Peak' but on the map accompanying Hann's report of the expedition as the former (Hann 1872).

Botanical observations made during Hann's Northern Expedition

The extracts presented here were taken from first-hand accounts of the expedition provided by William Hann and Thomas Tate. It is of interest to note that some passages are identical in some of the texts, which indicates that Hann and Tate viewed each other's reports but who 'borrowed' from whom cannot be ascertained. Consulted works include the following:

[H1] – Hann, W. (1872). *Report from Mr. W. Hann, leader of the Northern Expedition party*. James C. Beal: Brisbane.

[H2] – Hann, W. (1873). *Copy of the diary of the Northern Expedition under the leadership of Mr. William Hann*. James C. Beal: Brisbane.

[H3] – Hann, W. (1874). Hann's Expedition in northern Queensland. *Proceedings of the Royal Geographical Society of London* 18(1): 87–107.

[H4]: Handwritten notebook held in James Cook Library, Townsville.

[H5]: Handwritten notebook held in James Cook Library, Townsville.

[H6]: Handwritten notebook held in James Cook Library, Townsville.

[T1]: *Diary of Thomas Tate 26 June – 10 November, 1872*. Mitchell Library reference number: C 723. Transcribed by Margaret Ross (Ross 1989).

The texts from the Hann's note books have been transcribed by Clarke (1982). With regards to the hand-written diary and the published *Copy of the diary of the Northern Expedition*, there are significant differences between them. The designation of the published *Copy of the diary* as a true copy of his diary is misleading. One of the note books contains rough hand-drawn maps of the route of the expedition with some minor notes on most pages. Tate's sole account is a handwritten report held in the Mitchell Library, and this has been transcribed by Ross (1989).

The botanical observations are mostly broad descriptions of vegetation types, and with an occasional brief description of individual plants that were of interest to either Hann or Tate. Descriptors for forest types included terms as simple as forests of stringybark, ironbark, bloodwood, box, tea-tree, etc., with no attempts to distinguish individual species or to provide names. The species collected for each section were determined by specimen number sequences or the location written on the specimen labels. It is accepted that Tate's specimens were numbered sequentially throughout the expedition. For unnumbered specimens this cannot be ascertained with any certainty but are placed within the section where the habitat for the individual species was most likely for it to occur. However, caution is required in this interpretation. Notes and references concerning place name etymology are also provided. Specimens known to be types are dealt with in **Table 1** and indicated as # in the lists of species collected from each locality.

Annotated extracts

June 26–July, 1872

Fossilbrook Creek to Lynd River [Camps 1–6]: ... on the 26th June, all being in readiness, the final start was made from Fossilbrook, the party consisting of – Mr. William Hann, leader; Mr. Taylor, geologist; Dr. Tate, botanist, &c.; Mr. Warner, surveyor; Mr. Stewart and Mr. Nation, members of the party; Jerry, blackboy, with twenty-five pack and saddle horses, twenty sheep, and

five months' supply of flour, tea, sugar, and other necessaries [H1, H3] ... [Fossilbrook] is wrongly named, for it possesses no fossils; but running over a limestone bed, some might take it for small fossil remains of the coral species [H2] ... [along Fossilbrook Ck] basaltic forest country, timbered with ironbark and bloodwood, and the latter four miles, of sandy stony ridges with tea-tree [H2] ... over a flat country covered with reeds and rushes intermixed with grass [H1, H3] ... this creek has been named Hacketts [Fulford Ck], after the leader of a prospecting party who explored this part in their search for gold about 2 years ago³² [T1] ... the timber and grass change in character, the ironbark and bloodwood of the former is replaced by the tea-tree and other trees common to a sandy soil [H1, H3] ... of plants today I saw no great variety – two or three Owenias, a gossypium and a beautiful Lauranthus were the most notable [T1] ... the [Lynd] river here is a wide, sandy, and stony bed,³³ cut up into numerous channels, the ground between them being overgrown with tea-tree and shrubs of various descriptions, forming excellent cover for troublesome natives [H2] ... banks of [the Lynd River] which were covered with tea-trees and shrubs [H3] ... this morning we ascended the highest peak of the Kirchner Range³⁴ [T1] ... on our return I procured several peculiar plants [T1] ... a most notable feature on the river [Lynd R], and which I have named Gregory's Bluff³⁵ [H2] ... followed up a creek [Pinnacle Ck ?] in a gap of the Kirchner Range, on a northerly course over quartz ridges with open forest and good-looking country for gold, the timber – iron-bark, bloodwood, and apple-gum, with patches of stringy-bark [H2] ... tomahawks had to be brought into requisition to clear a way through the scrubby timber growing on these ridges [H3] ... undulating country covered with box, bloodwood and occasionally stringy bark [T1].

Species collected: *Adenanthera abrosperma* F.Muell. (Mimosaceae) (Tate 10, s.dat., 'R. Lynd', K 000756981); *Melaleuca viminalis* (Sol. ex Gaertn.) Byrnes (Myrtaceae) (Tate 8, s.dat., BRI [AQ0418968]); *Pavetta australiensis* Bremek. (Rubiaceae) (Tate 16, s.dat., BRI [AQ0200062]); *Streptoglossa*

adscendens (Benth.) Dunlop (Asteraceae) (Tate 9, 27 Jun 1872, 'R. Lynd', K 000974730).

July 6–7

Tate River [Camps 7–8]: ... struck a large sandy river coming from the south-east, which I have named the Tate³⁶ [H2, H3] ... struck the head of a creek, which was followed – it having high sandstone ridges, on the left bank, which were covered with small stringy-bark timber [H2] ... I lost my pint pot. Called this creek Pint Pot³⁷ [H6] ... traced the creek – named Pint Pot Creek – to its junction with a river of considerable size running to the westward. This river – named the Tate after the botanist of the Expedition² [T1] ... view to the north, shewing level country, as also some peaks in the same direction, which I have named Warner's Peaks³⁸ [H2] ... [at Tate River] found a new tree of the Myrtaceae order. The general appearance of the tree is very handsome, with dense fresh green foliage and affording beautiful shade. The leaves which grow in pairs are 6 to 7 inches long by 4 wide. A vein runs round each leaf near the margin giving it a double appearance. There is also a small flange on either side of the base of the leaf stalk. The tree is deciduous with a bark like box [possibly *Planchonia careya* (F.Muell.) R.Knuth – correctly in Lecythidaceae] [T1].

There are no known specimens from this location.

July 8–20

Nonda Creek to Walsh River [Camps 9–13]: ... following the course of the Nonda Creek,³⁹ so named from having met with this fruit for some time: and often mentioned by Leichhardt; also met with 'fan palm' [*Livistona muelleri* F.M.Bailey] [near Nolan Creek] and yellow 'grevillea', in flower. After six miles of easy travelling over a light sandy soil, on sandstone formation, timbered with stringy-bark, bloodwood, gum, and nonda tree [*Parinari nonda* F.Muell. ex Benth.] [H2] ... a great variety of shrubs and trees occurred which we had not seen before. One a kind of plum 20 ft high was loaded with a yellow fruit the size and shape of the yellow English plum. The fruit was seemingly eatable, but had

that acrid taste so common to the Australian fruits. As this tree answered the description of the *Nonda parinarium* [*Parinari nonda*] so highly spoken of by Jardine, we looked upon it with great interest. The creek has been named in consequence Nonda Creek. I procured some leguminous shrubs with most ornamental foliage, also a deciduous tree with large leaves. The yellow *Grevillea* was here in full bloom, the first time we have had it so [T1] ... on a sandy rise near an anabranch of the con-joined creeks [Nonda Creek and Walsh River]. Apple gum and pear trees [*Xylomelum scottianum* (F.Muell.) F.Muell.] [T1] ... I have named this stream the Walsh⁴⁰ [H2] ... so named after the Minister of Works, to whose patronage and countenance the Expedition owes its existence [H3] ... light soil on the level ground on the top of the banks [of the Walsh River], which was also lightly timbered, but this only proceeded for a short distance, after which it became more scrubby and thick as it receded from the edges of the banks [H2] ... first three miles being over poor stringy-bark country [H2] ... Mimosa, flooded gum, bloodwood with of course the endless melaleuca consisted the bulk of the timbers [T1] ... came to the creek of the 13th instant, which I have named Elizabeth Creek,⁴¹ after my youngest child [H2] ... went two miles north of west; came to a large creek which I called Louisa Creek after my older daughter⁴² [H4] ... the formation was limestone with deep rich soil, lightly timbered with mimosa and bauhinia [*Lysiphyllum hookeri* (F.Muell.) Pedley] and carrying many of the grasses of the Barcoo [H2, H3] ... from a mile near Louisa Creek, which I take to be a portion of Kennedy's Pebbly Range. I saw the Walsh bearing away to the westward [H2] ... sandy country, timbered with stringy bark and bloodwood with very little grass which was of a wiry, poor description [H4].

Species collected: *Albizia canescens* Benth. (Mimosaceae) (Tate 19, s.dat., BRI [AQ0230828]); *Basilicum polystachyon* (L.) Moench (Lamiaceae) (Tate 41, 16 Jul 1872, K 000674645); *Cochlospermum gillivraei* Benth. (Cochlospermaceae) (Tate 31, 13 Jul 1872, 'R. Palmer Walsh', K 000675858); *Cullen spicigerum* (Domin) A.E.Holland (as

Psoralea spicigera Domin) (Lamiaceae) (Tate 40, 16 Jul 1872, K 000217498*); *Diospyros humilis* (R.Br.) F.Muell. (Ebenaceae) (Tate 35, s.dat., BRI [AQ695385]); *Livistona* sp., (Arecaceae) (Tate s.n., s.dat., BRI [AQ0520869]); *Lygodium japonicum* (Thunb). Sw. (Lygodiaceae) (Taylor s.n., s.dat., 'York Peninsula Q.L.', MEL 2145231); *Parinari nonda* (Chrysobalanaceae) (Taylor s.n., s.dat., 'Yorks Penins', MEL 2226009).

July 21–31

Mitchell River [Camps 14–16]: ... I had fixed my temporary camp on the Mitchell⁴³ [H2] ... The country between the junction of the Mitchell and the Walsh and the Lynd is composed of conglomerate and sand coming onto the river, carrying stringy-bark and other timber common to this formation [H2] ... The country was very lightly timbered with the mimosa, and belts of bloodwood and stunted gums [H2] ... came upon a different formation of country, consisting of low sandstone ridges and conglomerate with stringy-bark on the latter [H2] ... the timber was mimosa, bloodwood and box but very little of the latter [H4] ... the broadleaf ti-tree and stringybark appeared again on the sandy ridges. The remaining 15 miles of the journey was intersected with belts of very good country which appeared to be swampy covered with blue bush and swamp grasses [H4] ... the country was good, covered with thick rich grasses and timbered with mimosa, bloodwood and box [H4] ... we passed and examined a range which Mr. Taylor said was of carboniferous formation, and to which I gave the name, "Taylor's Carboniferous Range"⁴⁴ [H2] ... the timber today was iron bark, bloodwood and ti-tree [H4] ... a remarkable range on the south I named Warner's Range [H3] ... these were the peaks seen on the 7th inst., and then named "Warner's Peaks" [The Pinnacles] [H2] ... Dr. Tate unwell from a slight attack of fever; one of the horses also ill, which was attributed to poison plant [H2] ... at the distance of about twenty miles southeast, a very conspicuous mountain came into view which I have named Mount Lilley⁴⁵ [Mt Mulligan] [H2].

Species collected: *Cymbidium canaliculatum* R.Br. (Orchidaceae) (Taylor s.n., s.dat., 'York Peninsula Q.L.', MEL 2150912); *Dendrolobium umbellatum* (L.) Benth. (Fabaceae) (Tate 51, 28 Jul 1872, 'north of Mitchell', K 000279004); *Lagerstroemia archeriana* F.M.Bailey (Lythraceae) (Tate 47, 21 Jul 1872, 'from upper part of Mitchell', K 000729689#); *Tephrosia astragaloides* R.Br. ex Benth. (Fabaceae) (Tate 44, 21 Jul 1872, K 000217062).

August 1–20

Garnet Creek to Palmer River [Camps 17–20]: ... a remarkable mountain, which I have named Mount Mulgrave⁴⁶; it forms the most conspicuous feature in this part of the country [H1, H3] ... it [Mt Mulgrave] forms the termination of a range running north and south, bearing the same name [H2] ... the timber we passed through was ironbark, bloodwood and box [H4] ... a large running creek, which I have named Garnet Creek⁴⁷, owing to the large quantity of these valuable gems being found in the sand [H1] ... the country, after the mica schist formation, was very poor and sandy, timbered with stringy-bark and broad-leaf tea-tree, both useless for any purpose [H2] ... intending to-morrow to visit a remarkable mountain in sight of the camp, bearing N.E., and which I have named Mount Daintree⁴⁸. This camp was fixed in lat. 15° 51' 59" [H2] ... from its summit [Mt Daintree] could see another large water-course to the north [H2] ... the hill was timbered with stunted broad leaf ti-tree and silver leaf iron bark [*Eucalyptus melanophloia* F.Muell.] [H5] ... the country got more sandy and the timber altered to ti-tree, stringy bark and bloodwood [H4] ... arrived at the above river, which I have named the Palmer, after the Chief Secretary of Queensland⁴⁹ [H2] ... which I believe to be Kennedy's Ninety-Yards-Wide Creek [H1, H3] ... the country on either side, which is timbered with ironbark, and other trees generally found on a light sandy soil [H2] ... Taylor and I went on to Mt Jessie⁵⁰, distance 3 miles [H5] ... gold was found in a gully names named Warner's Gully [H1].

Species collected: *Abutilon hannii* Baker f. (Malvaceae) (Tate 76, s.dat., K 000659610#); *Acacia victoriae* Benth. (as *A. hanniana* Domin) (Mimosaceae) (Tate 59, s.dat., 'R. Palmer', K 000791808#); *Ampelopteris prolifera* (Retz.) Copel. (Thelypteridaceae) (Taylor s.n., s.dat., MEL 1502557); *Blumea benthamiana* Domin (Asteraceae) (Tate 69, s.dat., K 000978543); *Dodonaea lanceolata* F.Muell. (Sapindaceae) (Tate s.n., s.dat., BRI [AQ0033458]); *D. malvacea* (Domin) M.G.Harr. (Sapindaceae) (Tate 60, 10 Aug 1872, 'R. Palmer', K 000701401#); *Drosera serpens* Planch. (Droseraceae) (Tate 80, s.dat., BRI [AQ03228748]); *Hypoestes floribunda* var. *yorkensis* R.M.Barker (Acanthaceae) (Tate 52, 4 Aug 1872, 'north of Mitchell', K 000884493); *Indigofera pratensis* F.Muell. (Fabaceae) (Tate 66, 12 Aug 1872, 'R. Palmer', K 000217340); *Selaginella* sp. (Selaginellaceae) (Taylor s.n., 'York Peninsula Q.L.', s.dat., MEL 2145340).

August 21–September 1

Palmer River to Coleman River [Camps 21–29]: ... [on leaving the Palmer River] we then got into a forest country of some miles in extent, with the best timber I have seen in North Queensland, consisting of stringy-bark, bloodwood, and many other forest trees. The country was rising the whole distance, and consisted of sand on the surface – the grass was very dry [H2] ... we struck a creek [Annie Creek?], when the country altered its appearance and timber, tea-tree appearing now [H2] ... we now came upon a very different class of country, the timber changes from ironbark to stringybark [H6] ... over a level tableland of sandy soil possessing the finest stringy bark and bloodwood trees. The Nonda [*Parinari nonda*] was here in abundance. The fruit is rather palatable when ripe and slightly nutritious [T1] ... great quantities of nondas seen to-day, when quite ripe, their fruit is not to be despised [H2] ... travelling was very good over undulating low ridges, timbered with bloodwood, ironbark with thick belts of broad leaf ti-tree [H4] ... vegetation and soil which in many cases was swampy underwent a great change as we proceeded. A great quantity of small plants

we had not met with before were procured here [T1] ... I believe I was now on the Coast Range [Hann called it Main Range in H1] which is here low. The timber was of the finest description, consisting of stringy-bark, bloodwood, and large nonda trees [*Parinari nonda*] [H2] ... the Doctor collected many supposed new varieties of plants on the top of the range [H2] ... passed over a great deal of burnt country, all showing signs of being impassable during the rainy season, which is made evident by the ever present tea-tree [H2] ... I was busy weighing and sorting my packs and the Doctor was arranging and examining his plants [H4] ... proceeded with Mr. Taylor to a high table-land, about three miles to the eastward of the camp, which I have named Jessie's Tableland⁵¹ [H1, H2] ... over poor sandy country, timbered with the broad leaf tea-tree and banksia [*Banksia dentata* L.f.], after which we came upon a large creek running south-west, and near its junction coming from the north, which I have named the Coleman⁵² [H2] ... camped on a creek which I think will be the Kendall [of Jardine] [King River⁵³] [H1, H3] ... the Doctor found several new plants in the creek [H4] ... The hill ascended by Mr. Taylor I have named Mount Newberry⁵⁴, after a friend of his in Melbourne [H2] ... the Doctor got several new plants, small annuals which are to be found in abundance [H6] ... we then crossed sandy ground, heavily timbered with stringy-bark and bloodwood, with poor grass, and after travelling ten miles arrived at a springy flat with abundance of water; it had banksias [*Banksia dentata*] and mimosas, and numerous small wild flowers growing all over it, all of which were collected by Dr. Tate [H2] ... have procured a large collection of plants. Lat 14° 13' [T1].

Species collected: *Adenanthera pavonina* L. (Fabaceae) (Taylor s.n., s.dat., 'For Herbar Yorks Penins', MEL 0594740); *Cheilanthes pumilio* (R.Br.) F.Muell. (Pteridaceae) (Taylor s.n., s.dat., 'York Peninsula Q.L.', MEL 2164868); *Gomphrena flaccida* R.Br. (Amaranthaceae) (Tate 95, 96, 22 Aug 1872, 'Ck north of Palmer', K 000357324); *Owenia vernicosa* F.Muell. (as *Owenia capitis-yorkii* Domin) (Meliaceae) (Tate 115, s.dat., K

000657892#); *Phyllanthus carpentariae* Müll. Arg. (Phyllanthaceae) (Tate 106, 24 Aug 1872, K 001056795); *Platyzoma microphyllum* R.Br. (Pteridaceae), (Taylor s.n., s.dat., 'Yorke Peninsula, W. side', MEL 2143039); *P. microphyllum* (Pteridaceae) (Taylor s.n., s.dat., 'York Peninsula Q.L.', MEL 2143046); *Psychotria loniceroidea* var. *angustifolia* Benth. (Rubiaceae) (Tate 129, 31 Aug 1872, 'from watershed flowing into P. Charlottes Bay', K 000777507); *Spermacoce baileyan* Domin (Rubiaceae) (Tate 105, 24 Aug 1872, K 000265492#); *Stylium adenophorum* Lowrie & Kenneally (Styliadaceae) (Tate 112, 24 Aug 1872, K 000060179); *S. alsinoides* R.Br. (Styliadaceae) (Tate 90, 22 Aug 1872, 'Ck north of Palmer', K 000355236); *S. leptorrhizum* F.Muell. (Styliadaceae) (Tate 82, 22 Aug 1872, 'Ck north of Palmer', K 000355327); *S. schizanthum* F.Muell. (Styliadaceae) (Tate 86, 22 Aug 1872, 'Ck north of Palmer', K 000355241); *S. schizanthum* (Styliadaceae) (Tate 88, 22 Aug 1872, 'Ck north of Palmer', K 000355240); *Terminalia platyptera* F.Muell. (Combretaceae) (Taylor s.n., s.dat., 'York Peninsula', MEL 2149481).

September 2–11

Stewart River to Kennedy River [Camps 30–37]: ... at the head of the river, which I have named the Stewart,⁵⁵ and which is Kennedy's River, 100 yards wide, many varieties of plants were seen – not met with before – and offered to an enthusiastic botanist a wide field for research [H1, H3] ... it is timbered with ironbark on the ridges towards the Main Range, and with tea-tree lower down, which is again scrubby but open on to the coast [H1, H3] ... after camping we all went botanising and found some beautiful plants quite new to me. [near Stewart River] One large magnificent creeper like the passion plant, the leaves were over 12 inches with a beautiful green [H4] ... we followed the river [Stewart River] on which we were camped, and here met with many varieties of plants and trees to which we were strangers. Dr. Tate says he collected over twenty varieties, many of which were strange in appearance, while others were exceedingly pretty [H2] ... on my way to the camp I got several fine

flowers quite new to me [H6] ... first part of the journey was over sandy country heavily timbered with stringy-bark and bloodwood [H2] ... we camped on a reedy lagoon running into the river, which I have named the Stewart, after one of the members of my party [H2] ... I got some plants for the Doctor. I spoke rather sharply to him today. In getting a fine specimen of a new plant I saw a few green ants on it. He at once threw it away on that account [H5] ... the river [Stewart R] which is lined at its mouth with thick mangroves scrub [H5] ... returned to camp with several new plants – the collection of which is now getting large [H2] ... we turn south and endeavour to reach Cardwell by the coast [T1] ... started on a south-east course for the Kennedy; the first five miles was over sandy tea-tree country, then two miles of a light loamy soil with long grass, which was terminated by a belt of vine scrub of no great width, when we emerged on a flat with the most beautiful varieties of trees yet seen, the foliage of which was so dense that no sun could penetrate beneath [H2] ... poor old Ball knocked up and I left him at a creek, 7 miles from camp, which I have called Balclutha after the old horse⁵⁶ [H6] ... undergrowth equally rich in appearance, and the two combined made it a beautifully cool and fresh-looking spot. There were also many miles of open forest land, with splendid timber of the stringybark species, magnificently adapted for telegraph poles [H1, H3] ... after this, crossed onto a sandy ridge with stringybark of great height and straight [H2] ... passed over barren flats destitute of grass and timber and with belts of tea trees [T1] ... ridges with stringy bark [T1] ... we again entered the stringybark forest [H2] ... four miles more came upon some open country with broad leaf tea-tree, subject to floods [H2] ... passed over large open plains with belts of pandanus [*Pandanus cookii* Martelli] and box [T1] ... we were in a low moist flat, with a forest of tea-trees [H2] ... passing some fair grazing country with belts of *Xanthorrhoea* [*Xanthorrhoea johnsonii* A.T.Lee] etc. [T1] ... so we were on the Kennedy [H2] ... close to our camp were clumps of fan palms [*Corypha utan* Lam.] of immense size and beauty – nothing had been seen like them before; the

banks of the river were free from thick scrub [H2].

Species collected: *Adiantum aethiopicum* L. (Pteridaceae) (Tate 143, s.dat., BRI [AQ0741990]); *Dendrobium bigibbum* Lindl. (Orchidaceae) (Tate 151, s.dat., K 000881551); *D. canaliculatum* R.Br. (Orchidaceae) (Tate 161, s.dat., K 001085443); *Indigofera pratensis* (Fabaceae) (Tate 160, s.dat., K 000217341); *Ixora timorensis* Decne. (Rubiaceae) (Tate 172, s.dat., K 000763338); *Mallotus nesophilus* Müll.Arg (Euphorbiaceae) (Tate 169, s.dat., K 0001067355); *Phyllanthus novae-hollandiae* Müll.Arg (Phyllanthaceae) (Tate 138, 2 September 1872, 'Eastern watershed 30 miles from Coast', K 001056821); *P. novae-hollandiae* (Phyllanthaceae) (Tate 139, 2 September 1872, 'Eastern watershed 30 miles from Coast', K 001056820); *Tephrosia simplicifolia* F.Muell. ex Benth. (Fabaceae) (Tate 158, s.dat., K 000216983).

September 12–16

Normanby River [Camps 38–41]: ... I changed my course to the south-east, and passed over seven miles of a burnt and wretched country to a long lagoon of permanent water [H2] ... came on the banks of a fine river [Normanby R], with steep banks clear of scrub [H2] ... as this is a large and remarkable river, and one discovered by this expedition, I have named it the Normanby,⁵⁷ after Lord Normanby, the present Governor of Queensland [H2] ... entered a fine green plain the largest we found during this trip [T1] ... short distance back from the river we found the ridges to be of sandstone timbered with stringybark, but all of a wretched description [H2] ... going in an easterly direction, which I found coming round to the north-east through a thick forest of stringybark and tea-tree [H2] ... the Doctor gathered 15 fresh plants coming through the scrub today [H5] ... entered a scrub of stringybark, tea-tree, and other small timber growing on sandy soil [H2] ... over a dry sandy desert throughout without a vestige of grass and producing nothing but tea tree [T1] ... a long picturesque plain was crossed covered with seedling gums, the deposits of floods [H1, H3] ... all the best country is of a sandy nature timbered with stringy bark with

lots of grass trees [*Xanthorrhoea johnsonii*] [H5] ... came upon open box forest [T1] ... the river here had steep banks on either side with a strong stream, and was thickly timbered [H2].

Species collected (all s.dat.): *Alternanthera nodiflora* R.Br. (Amaranthaceae) (Tate 202, K 000357351); *Alyxia spicata* R.Br. (Apocynaceae) (Tate 212, K 000894161); *Asteromyrtus symphyocarpa* (F.Muell.) Craven (Myrtaceae) (Taylor s.n., MEL 1587816); *Dodonaea malvacea* (Sapindaceae) (Tate 207, K 000701402[#]); *Hovea longifolia* var. *lanceolata* (Sims) Benth. (Fabaceae) (Tate 213, K 000278775); *Indigofera viscosa* Lam. (Fabaceae) (Tate 229, K 000217309); *Luffa aegyptiaca* Mill. (Cucurbitaceae) (Taylor s.n., MEL 0593089); *Millettia pinnata* (L.) Panigrahi (Fabaceae) (Tate 186, K 000618772); *Persoonia falcata* R.Br. (Proteaceae) (Tate 221, K 000736891); *Barringtonia acutangula* (L.) Gaertn. [as *Stravidium denticulatum* Miers] (Lecythidaceae) (Tate 195, BM 001015973[#], K 000761580[#]); *Strychnos lucida* R.Br. (Loganiaceae) (Taylor s.n., 'Yorks Penins for Herbarium', MEL 2191383); *Stylium adenophorum* (Styliaceae) (Tate 193, K 000060180); *Tephrosia simplicifolia* (Fabaceae) (Tate 192, K 000216983); *Urena armitiana* F.Muell. (Malvaceae) (Tate 203, K 000659714); *Vigna lanceolata* var. *filiformis* Benth. (Fabaceae) (Tate 215, K 000279299).

September 17–27

Normanby Range, Cunningham Range, Oaky Creek and Annan River (misidentified as the Endeavour River by Hann) [Camps 42–50]: ... descended a steep hill into the valley of the Normanby [H2] ... for the first time, we here met with the Moreton Bay chestnut [*Castanospermum australe* A.Cunn. ex Mudie] and banana trees [*Musa banksii* F.Muell.] [H2] ... we had to wind ourway down among sandstones [H6] ... I have called this Gripe Camp on account of most of the party being gripe all night from the effects of their eating the Cluster Fig [*Ficus racemosa* L.] Morton Bay Chestnut [*Castanospermum australe*] [H5] ... this range was the divide between the waters of the Normanby and the Endeavour [H2] ... camped on a poplar gum

[*Eucalyptus platyphylla* F.Muell.] flat at foot of a very high conspicuous range [H5] ... through a poor country, with stringy-bark and bloodwood, and in the creek we saw the old familiar oaks [*Casuarina cunninghamiana* Miq.] – the first since leaving Fossilbrook, owing to which circumstance I have named it "Oaky Creek"⁵⁸ [H2] ... the range I have called "Cunningham's Range"⁵⁹ [H2] ... poplar gums [*Eucalyptus platyphylla*] seen in this flat [H2] ... followed the course of Oaky Creek in an easterly direction [H2] ... the first two and a-half miles was over tea-tree country [H2] ... found ourselves on the banks of a large river [Annan R] just above its junction with Oaky Creek, the river running north and south and was salt. This river was, of course, no other than the Endeavour [correctly the Annan River]⁶⁰ [H2] ... followed its windings for ten miles, when we came to saltwater tea-tree and mangroves [H2] ... we crossed a low greenstone range, when the country changed to a miserably poor soil with tea-tree and poplar gum [*Eucalyptus platyphylla*] [H2] ... I noticed the nonda trees [*Parinari nonda*] here [H6] ... Mt. Thomas has been in sight since yesterday⁶¹ [T1] ... on recently burnt ground some poisonous herb makes its appearance in these parts, which is eaten by the horses, and from which many of them die [H1] ... we crossed the river [Annan R], owing to a spur from Mount Cook⁶² coming right on to its banks [H2] ... went on the beach [Walker Bay] and tried to get to the mouth of the river [Annan River] but could not on account of a mangrove creek [H5] ... saw the stinging nettle [*Dendrocnide moroides* (Wedd.) Chew] for the first time [H2] occasional vine scrub to cut through [T1] ... the mountains are all covered with a dense scrub [H6].

Species collected (nearly all s.dat.): *Abrus precatorius* L. (Fabaceae) (Taylor s.n., 'Herbarium Yorke's Peninsula', MEL 0726485); *Acrostichum speciosum* Willd. (Pteridaceae) (Taylor s.n., 'York Peninsula Q.L.', MEL 2152110); *Amorphospermum antilogum* F.Muell. (Sapotaceae) (Taylor s.n., 'Herbar, Yorks Peninsula', MEL 2186951); *A. antilogum* (Sapotaceae) (Taylor s.n., 'Herbar Probably from Norm Taylors Cape York collect', MEL 2192383);

Amphineuron terminans (Hook.) Holttum (Thelypteridaceae) (*Taylor s.n.*, ‘York Peninsula Q.L.’, MEL 2163496); *Arthropteris palisotii* (Desv.) Alston (Davalliaceae) (*Taylor s.n.*, ‘York Peninsula Q.L.’, MEL 0239704); *Calytrix leptophylla* Benth. (Myrtaceae) (*Tate s.n.*, BRI [AQ0695483]); *Castanospermum australe* (Fabaceae) (*Tate* 232, ‘Hann Exp’, BRI [AQ00017915]); *Ceratopteris* sp., (Pteridaceae) (*Taylor s.n.*, ‘York Peninsula Q.L.’, MEL 2146922); *Cochlospermum gillivraei* Benth. (Bixaceae) (*Taylor s.n.*, ‘Herbarium Yorke Peninsula’, MEL 0081470); *Coronidium rupicola* (DC.) Paul G.Wilson (Asteraceae) (*Tate* 295, K 000899130); *Crepidomanes bipunctatum* (Poir.) Copel. (Hymenophyllaceae) (*Taylor s.n.*, ‘York Peninsula Q.L.’, MEL 0019306); *Dalbergia densa* Benth. (Fabaceae) (*Tate* 280, Sep 1872, ‘Endeavour River Coll Hann Expedition’, BRI [AQ0019377]); *Dendrobium canaliculatum* (Orchidaceae) (*Tate* 278, K 001085445); *Drynaria quercifolia* (L.) J.Sm. (Polypodiaceae) (*Taylor s.n.*, ‘York Peninsula Q.L.’, MEL 2158813); *Eugenia reinwardtiana* (Blume) DC. (Myrtaceae) (*Tate* 275, 276, K 000821556); *Glycine microphylla* (Benth.) Tindale (Fabaceae) (*Tate* 282, BRI [AQ0695427], K 000665485); *G. tabacina* (Labill.) Benth. (Fabaceae) (*Tate* 267, K 000119063); *Goodenia paniculata* Sm. (Goodeniaceae) (*Tate* 277, K 000215970); *Lindsaea brachypoda* (Lindsaeaceae) (*Tate* 292, K 000665485); *L. obtusa* J.Sm. (Lindsaeaceae) (*Taylor s.n.*, ‘Endeavour River Bloomfield River’, MEL 2164082); *L. sp.*, (Lindsaeaceae) (*Taylor s.n.*, ‘York Peninsula Q.L.’, MEL 2164051); *L. sp.* (Lindsaeaceae) (*Taylor s.n.*, ‘York Peninsula Q.L.’, MEL 2164069); *Lygodium flexuosum* (L.) Sw. (Lygodiaceae) (*Taylor s.n.*, ‘York Peninsula Q.L.’, MEL 2164700); *L. japonicum* (Lygodiaceae) (*Taylor s.n.*, ‘York’s Peninsula’, MEL 2145232); *Melastoma malabathricum* L. (Melastomataceae) (*Tate* 273, BRI [AQ0717267]); *Millettia pinnata* (Fabaceae) (*Tate* 274, K 000618771); *Pothos brownii* Domin, (Araceae) (*Tate s.n.*, BRI [AQ0431166]); *Ptisana oreades* (Domin) Murdock (Marattiaceae) (*Taylor s.n.*, ‘Yorke’s Peninsula’, MEL 2162878); *Pyrrosia longifolia*

(Burm.f.) C.V.Morton (Polypodiaceae) (*Taylor s.n.*, ‘York Peninsula Q.L.’, MEL 2147112); *Schizaea dichotoma* (L.) Sm. (Schizaeaceae) (*Taylor s.n.*, ‘York Peninsula Q.L.’, MEL 0571819); *Selaginella ciliaris* (Retz.) Spring (Selaginellaceae) (*Taylor s.n.*, ‘York Peninsula Queensland’, MEL 2143426); *S. longipinna* Warb. (Selaginellaceae) (*Tate s.n.*, BRI [AQ0418967]); *Solanum magnifolium* F.Muell. (Solanaceae) (*Tate s.n.*, BRI [AQ0332186]); *Stylium alsinoides* (Styliaceae) (*Tate* 271, K 000355237); *Tectaria confluens* (Hook. & Baker) Pic.Serm. (Dryopteridaceae) (*Taylor s.n.*, ‘York Peninsula Q.L.’, MEL 2155618); *Velleia spathulata* R.Br. (Goodeniaceae) (*Tate* 263, 264, K 000215436).

September 28–October 15

Annan River to Bloomfield River [Camps 51–64]: ... I sent out a prospecting party to follow a native path from this camp into the scrub [H1] ... open space surrounded with dense scrub [T1] ... surrounded on all sides with dense scrub [T1] ... to the south huge ranges rose up tier upon tier, the highest and most conspicuous being Peter Botte⁶³ [T1] ... Jerry came across a strange animal, with the likeness of a kangaroo and the habits of a ‘possum [*Dendrolagus humholtzi* Collett, 1884]. In New Guinea there is a veritable tree kangaroo but I was not aware that it was to be found in Australia. The native name he says is ‘brangeri’ [bongarry]⁶⁴ [T1] ... the thorns and lawya [*Calamus* spp.] scrubs irritate both men and beasts; at times it was difficult to get away from the close embrace of these latter; their long arms were drawn across the face, the hands, the clothes - they would not suffer to be shaken off; they required gentle and civil treatment, otherwise they kept their hold, and very much reminded me of other lawyers not found in scrubs [H1, H3] ... stopped by a broad stream – the Bloomfield of the chart⁶⁵ [H2] ... the Bloomfield finds its outlet in Weary Bay⁶⁶ – an uninteresting spot, with a sandy beach bordered by light scrub [H2] ... made out our position to be due west of Cape Tribulation⁶⁷, then only a few miles distant from us [H2] ... hill which has been named Consultation Peak⁶⁸ [T1] ... we had dense scrub to contend with, not the ordinary

scrub but a mass of foliage interlaced with loir [*Calamus* sp.], supple jack [*Flagellaria indica* L.] and all kinds of prickly abominations [T1] ... we drew near the summit of the ridge, which was crowned with scrub [H2] ... at our feet lay miles of thick and impenetrable scrub, covering ridges and gullies alike [H2] ... Cape Tribulation and the country for miles around its base was a sea of scrub, which extended as far as our vision in a southerly direction [H2] ... at the point where I left the Bloomfield, it was seen taking its course into the Main Range; the Endeavour [Annan River] was left taking its course into the scrubby, mountains of the coast, a few miles from the sea, near Mount Thomas [H1, H3] ... Schnapper Island [Snapper Island]⁶⁹ was due east from us and the southern portion of the bay was south 40 east [H6].

Species collected (all s.dat.): *Abrodictyum brassii* (Croxall) Ebihara & K.Iwats. (Hymenophyllaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 0019380); *A. obscurum* (Blume) Ebihara & K.Iwats. (Hymenophyllaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 0019455); *Adiantum aethiopicum* L. (Pteridaceae) (*Taylor s.n.*, MEL 1558622); *A. aethiopicum* (Pteridaceae) (*Taylor s.n.*, MEL 1558623); *Aleurites moluccanus* (L.) Willd. (Euphorbiaceae) (*Taylor s.n.*, 'Herbarium N.A.', MEL 0232479); *Asplenium nidus* L. (Aspleniaceae) (*Taylor s.n.*, MEL 0114909); *A. paleaceum* R.Br. (Aspleniaceae) (*Taylor s.n.*, MEL 0114956); *A. simplicifrons* F.Muell. (Aspleniaceae) (*Taylor s.n.*, MEL 0114977); *Blechnum cartilagineum* Sw. (Blechnaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 0053967); *Bolbitis taylori* (F.M.Bailey) Ching (Dryopteridaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 2168714); *Cadetia taylori* (F.Muell.) Schltr. (as *Bolbophyllum* [= *Bulbophyllum*] *taylori* F.Muell.) (Orchidaceae) (*Taylor s.n.*, MEL 1540845[#]); *Cheilanthes tenuifolia* (Burm.f.) Sw. (Pteridaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 2154573); *Cyathea cooperi* (Hook. ex F.Muell.) Domin (Cyatheaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 2148762); *C. rebecca* (F.Muell.) Domin (Cyatheaceae) (*Tate 348*, K 000061762); *Humata Cyclosorus interruptus* (Willd.)

H.Ito (Thelypteridaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 2163720); *Davallia* sp. (Davalliaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 2164592); *Doodia media* R.Br. (Blechnaceae) (*Taylor s.n.*, MEL 1010090); *Elaeocarpus* sp. (Elaeocarpaceae) (*Taylor s.n.*, 'Herbarium Yorks Peninsula', MEL 2227702); *Eupomati laurina* R.Br. (Eupomatiaceae) (*Tate 324*, K 000574914); *Humata repens* (L.f.) Small ex Diels (Davalliaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 2170750); *Lastreopsis poecilophlebia* (Hook.) Labiak, Sundue & R.C.Moran (Dryopteridaceae) (*Taylor s.n.*, MEL 1502583); *Lindsaea brachypoda* (Lindsaeaceae) (*Taylor s.n.*, 'York Peninsula, N Australia, coll Norman Taylor ex herb. Mueller 9/77', K 000665483); *L. sp.* (Lindsaeaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 2164059); *L. obtusa* J.Sm. (Lindsaeaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 2164081); *Linospadix minor* (W.Hill) Burret (Arecaceae) (*Tate 302*, K 000209488); *Lygodium reticulatum* Schkuhr (Lygodiaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 2145162); *Myristica insipida* R.Br. (Myristicaceae) (*Taylor 5*, 'Yorke's Peninsula', MEL 2204828); *Paphia meiniana* (F.Muell.) Schltr. (as *Agapetes queenslandica* Domin) (Ericaceae) (*Tate 315*, K 000780935[#]); *Pronephrium asperum* (C.Presl) Holtum (Thelypteridaceae) (*Taylor s.n.*, MEL 1502759); Pteridophyte indet. (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 2129589); *Pteris ensiformis* Burm.f. (Pteridaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 2152565); *P. pacifica* Hieron. (Pteridaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 2152586); *P. tremula* R.Br. (Pteridaceae) (*Taylor s.n.*, 'York's Peninsula', MEL 2153137); *Siphonodon australis* Benth. (Celastraceae) (*Taylor s.n.*, 'Yorke Peninsula', MEL 2271952); *Sticherus flabellatus* (R.Br.) H.St.John (Gleicheniaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 2144553); *Tectaria confluens* (Hook. & Baker) Pic.Serm. (Tectariaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 2155019).

October 16–29

Bloomfield River to Palmer River via Laura River (named as the Hearn River by Hann) [Camps 65–75]: ... we got back to Cancellation Peak [also Consultation Peak] [H5] ... on a general course of west 25° north, I reached the first of the numerous branches of the Normanby [H1, H3] ... to the west of our camp is a high and conspicuous as well as a strong and scrubby range, which I have named Andrew's Range at the request of the Doctor, who had a friend of that name in the ill-fated "Maria," bound to New Guinea, and who was drowned after the wreck of that vessel⁷⁰ H2] ... the green and fresh-looking scrubs have also disappeared, to be replaced by dry and hard looking ridges. This was our first new camp towards the west [H2] ... descended into another branch of the Normanby [Laura River, named as the Hearn River by Hann]⁷¹ [H2] ... I believe this to be the headwaters of the Kennedy [H2] ... went on ahead with Mr. Taylor to take bearings from a remarkable saddle hill, which I have named Mount Aplin,⁷² after a friend in Townsville [H2] ... I have no doubt now as this stream being the Kennedy [H2] ... the Normanby. I now believe that we have been the whole time on the watersheds of the latter river [Normanby R] [H2] ... we have not yet seen the Kennedy [H2]... poorest description, being nothing but sand, and timbered with stringy-bark, bloodwood, and numerous other trees found on sandy soil [H2] ... this sandstone range continues to Jane's Tableland,⁷³ at the south end of Princess Charlotte's Bay⁷⁴ [H3] ... Taylor and I went up the east branch of the creek [tributary of Palmer River]. He found ferns in the limestone. He got three varieties of ferns and one *glyphospermum*. I wish he could find more as I believe these are the first which have been found in northern Queensland [H4].

Species collected (all s.dat.): *Angiopteris evecta* (G.Forst.) Hoffm. (Marattiaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 2142979); *Cajanus marmoratus* (Benth.) F.Muell. (Fabaceae) (*Tate* 379, K 000279410); *Crotalaria trifoliastrum* Willd. (Fabaceae) (*Tate* 368, K 000217233); *Marsdenia microlepis* Benth. (Asclepidaceae) (*Tate*

365, K 000873033); *Polycarpaea spirostylis* F.Muell. (Caryopyllaceae) (*Taylor s.n.*, K 000723257); *Selaginella longipinna* Warb. (Selaginellaceae) (*Taylor s.n.*, 'York Peninsula Q.L.', MEL 2142965).

October 30–November 12

Palmer River to Junction Creek [Camps 76–88]: ... went a south course with Mount Mulgrave as our signboard [H2] ... we passed Taylor's Peak⁷⁵ on our right hand [H4] ... this brought us to the divide between the Palmer and the Mitchell Rivers [H2] ... a bold, high and remarkable range stretches across from the bank of the Palmer to that of the Mitchell – I have named it "Thompson Range" after the Minister for Lands⁷⁶ [H3] ... bade farewell to Mount Mulgrave [H2] ... here [south of Palmer River] we also procured a vegetable called "Jack's grass," which makes a tolerable edible when boiled: it makes its appearance after rain, and bears a small blue flower [possibly *Commelina ensifolia* R.Br.] [H2] ... struck Elizabeth Creek at the spot crossed by us on our outward track [H2] ... on the 1st November, I reached the Walsh [H1, H3] ... followed the windings of a tributary of the Tate [H2] ... we struck the Tate where there was an abundance of water but no grass [H4] ... the first hill I named Mount MacDevitt, after the member for Kennedy⁷⁷, and the other Mount St. George, after the Commissioner at the Etheridge⁷⁸ [H2] ... on the 9th November I reached the Lynd, and on the evening of the same day I made my camp on Fossilbrook Creek [H1, H3] ... on the road for Mount Surprise, which we reached by one o'clock [H1] ... on to Junction Creek to telegraph the arrival of the party [H2] ... accompanying this letter is: Diary of Expedition, Map of Expedition, Botanical Specimens collected by Dr. Tate, Fossils and "pannings off" by myself [H1].

There are no known specimens from these locations.

Taxonomic results of the expedition and conclusion

A total of 149 specimens from the expedition have been located. Overall, the botanical results of the expedition were meagre

considering the potential to encounter and collect new species in the habitats travelled through, such as the diverse and species-rich rainforest areas between the Annan and Bloomfield rivers. In the expedition reports and diaries, this habitat was described as 'dense scrub' and was mostly referenced in respect to the difficulties that it posed to travel, how it represented a 'barrier' and was to be dreaded and avoided, and from which they were ultimately forced to retreat to open forests (Sanderson 2004). Tate's engagement with the flora of these habitats was minimal, whereas Taylor made a collection of ferns that proved of considerable interest to botanists (Mueller 1874b; Bentham 1878; Bailey 1879, 1886).

Some notable species were reported in both Hann's and Tate's diaries mostly related to edible plants, such as the fruit of the Nonda (*Parinari nonda*) and the edible leaves of Jack's grass (possibly *Commelina ensifolia*). Tate (1872) wrote of the Nonda:

a kind of plum 20 ft high was loaded with a yellow fruit the size and shape of the yellow English plum. The fruit was seemingly eatable, but had that acrid taste so common to the Australian fruits. As this tree answered the description of the *Nonda parinarium* so highly spoken of by Jardine, we looked upon it with great interest.

Table 2. Plant names commemorating William Hann, Thomas Tate or Norman Taylor, associated with Hann's Northern Expedition of 1872. Currently used names are in bold type. Names indicated * are based on collections not made on the expedition.

Abutilon hannii Baker f., <i>J. Bot.</i> 31: 268 (1893). 'Hab. Queensland. Cape York Peninsula Exp., W.Hann No. 76' [= <i>T. Tate</i> 76].
Acacia hanniana Domin, <i>Biblioth. Bot.</i> 22(89): 807 (1926). [= Acacia victoriae Benth.]. 'Nord-Queensland: Cape York, W.Hann, Cape York Peninsular Expedition No. 59' [= <i>T. Tate</i> 59].
* Bolbitis taylori (F.M.Bailey) Ching, <i>Index Filicum</i> Edn. Suppl. 3: 50 (1934); <i>Acrostichum taylori</i> F.M.Bailey, <i>Report Acclimat. Soc. Queensland</i> 1883: 11 (1884). 'I have named this fern after Dr. Norman Taylor, thinking it probable that the small fertile specimens in that gentleman's York Peninsula specimens referred by Mr. Bentham in <i>Flora Australiensis</i> , vol. vii, p. 779, to Blume's <i>A. repandum</i> , were in all probability belonging to the present species'.
Cadetia taylori (F.Muell.) Schltr., <i>Repert. Spec. Nov. Regni Veg.</i> 1: 424 (1912); <i>Bulbophyllum taylori</i> F.Muell., <i>Fragm.</i> 8(65): 150 (1874). 'Norman Taylor, cui species dicata'.
Pongamia pinnata var. <i>hannii</i> Domin, <i>Biblioth. Bot.</i> 22(89): 787 (1926) [= Pongamia pinnata var. <i>minor</i> (Benth.) Domin]. Type: 'Cape York Penin. Expedition. Comm. Queensland Government, Dec. 1873, W.Hann 274' [= <i>T. Tate</i> 274] (lecto: K 000618771, <i>fide</i> Cooper et al. 2019).
* Premna tateana F.M.Bailey, <i>Bot. Bull. Dept. Agric., Queensland</i> 4: 15 (1891) [= Premna serratifolia L.]. 'After T. Tate, botanic collector of Hann's Expedition'. Later Bailey noted in his Presidential Address, July 1891: 'Thos. Tate, the botanic collector of Hann's Northern Expedition in 1872, collected a number of specimens which were forwarded to the Kew Herbarium, that Mr. Bentham might examine them for his work on the Flora then in progress. Finding no plant named after this collector, I have given a lately-received plant of that district his name, <i>Premna tateana</i> '.

In recognition of this plant, Hann named Nonda Creek, a tributary of Walsh River. Hann also reported on the vegetation in his diaries and noted that Jack's grass 'makes a tolerable edible when boiled: it makes its appearance after rain, and bears a small blue flower' (Hann 1873). The names of plant species commemorating the members of the expedition are presented in **Table 2**.

This paper has revealed the problem with attribution as to who collected specimens and was responsible for their future dispersal and study. On termination of the expedition, Hann commandeered both Tate's botanical collections and all the geological and palaeontological specimens mainly collected by Taylor, but failed to provide clear acknowledgement of the actual collector. This paper has demonstrated that Tate was the official collector of the botanical specimens and that future reference to them should reflect this fact.

The history and fate of botanical collections is only occasionally considered by taxonomists in their day-to-day work. Aspects of collection methods, numbering, the personalities involved, and subsequent difficulties are rarely recorded in taxonomic accounts. Many of these aspects admittedly have only limited bearing on taxonomic outcomes which are mostly concerned with taxon descriptions, typification, specimen locations and adherence to the rules of nomenclature. The botanical collections made during the Hann Northern Expedition are identifiable as discrete collections of a defined and well-documented route and provide some indication of the composition of the vegetation at that time. Although not attempted in this paper, comparison with existing vegetation is possible.

Acknowledgments

We thank the directors and staff of a number of herbaria, for locating, documenting and imaging specimens. These include Nimal Karunajeera, Cathy Trinca and Pina Milne at MEL; Gillian Brown and Paul Forster at BRI; Juliet Wege and Cheryl Parker at PERTH; and Donna Lewis at DNA. For library and

archival assistance we thank Bronwyn McBurnie and Louise Cottrell, James Cook University Library, Townsville; Cecelia Carroll, Library, Department of Environment and Science, Brisbane; Sally Stewart, Royal Botanic Gardens Victoria, Library; Shannon Robinson, Queensland Museum Library; Kat Harrington and Jess Conway, Kew Archives & Library; Staff at John Oxley Library, Brisbane. Claire Burton, Cairns Regional Council, is thanked for preparing the map and David Warmington, Cairns Botanic Gardens, is thanked for logistical support. A special thanks is given to Jim McJannett of the Cooktown and District Historical Society, for support and information. We also acknowledge the constructive comments and suggestions for improvement provided by an anonymous referee.

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Endnotes

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² Queenslander, 13 Jul 1872, p. 11, ‘The Etheridge’; Maryborough Chronicle, Wide Bay and Burnett Advertiser, 30 Jul 1872, p. 4, ‘Miscellaneous’.

³ Age, 19 Nov 1872, p. 3, ‘The York Peninsula’; Telegraph, 30 May 1873, p. 3, ‘Cape York Expedition’.

⁴ Rockhampton Bulletin, 15 Oct 1873, p. 3, ‘The Palmer gold-field’.

⁵ Pearn (2001) in his book *Doctor in the Garden* incorrectly stated that the cousins Thomas Tate and Ralph Tate were brothers.

⁶ Otago Daily Times, 6 Dec 1865, ‘Shipping’.

⁷ Southland Times, 1 Jan 1866, p. 2, ‘Dunedin’; Central Queensland Herald, 1 Feb 1934, p. 24, ‘Obituary Mr. Thomas Tate’.

⁸ Evening News, 30 Mar 1872, p. 2, ‘The cruise of the Governor Blackall’; Central Queensland Herald, 23 Mar 1933, p. 26, ‘Nearing the century Thomas Tate and John Hogg’.

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¹¹ William Hann Papers, Special Collections, James Cook University Library, Townsville.

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¹³ Maryborough Chronicle, Wide Bay and Burnett Advertiser, 22 Mar 1873, p. 4, ‘Incidents of Mr. Hann’s expedition’.

¹⁴ Central Queensland Herald, 23 Mar 1933, p. 26, ‘Nearing the century Thomas Tate and John Hogg’.

¹⁵ R. Daintree to G. Bentham, 9 Dec 1873, Kew Archives and Library, Plant Determinations List Vol 12, f. 269.

¹⁶ R. Daintree to G. Bentham, 16 Dec 1873, Kew Archives and Library, Plant Determinations List Vol 12, f. 270.

¹⁷ Kew Archives and Library, Plant Determinations List Vol 12, ff. 285, 286. [G. Bentham].

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²¹ Morning Bulletin, 22 Apr 1921, p. 8, ‘Thomas Tate, botanist, explorer and schoolman’; Ross, M. (undated). *Thomas Tate*. Unpublished typed manuscript. John Oxley Library: Brisbane.

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²⁴ Rockhampton Bulletin, 12 Dec 1872, p. 2, ‘Shipping intelligence’; Brisbane Courier, 16 Dec 1872, p. 2, ‘Shipping’.

²⁵ Argus, 7 Jun 1873, p. 1, ‘Geological map of Australia and Tasmania’; Brisbane Courier, 15 Nov 1873, p. 5, ‘The course of the Mitchell River’.

²⁶ Sydney Morning Herald, 8 May 1874, p. 6, ‘Baron Mueller’.

²⁷ Herald, 19 Feb 1873, p. 3, ‘Fossils in Queensland’.

²⁸ Queenslander, 1 Mar 1873, p. 2, ‘The York Peninsular Expedition’.

²⁹ Maryborough Chronicle, Wide Bay and Burnett Advertiser, 22 Mar 1873, p. 4, ‘Incidents of Mr. Hann’s expedition’.

³⁰ N. Taylor to W. Hann, 5 Feb 1873, James Cook University Special Collections.

³¹ William Hann married Mary Burge Hearn in 1859; she was the eldest daughter of James Hearn, a wealthy land speculator and businessman in Victoria; Age, 17 Nov 1859, p. 3, ‘Family notices’.

³² Hackett’s Creek was named by William Hann for Thomas Ridge Hackett (1830–1884), Gold Commissioner at Ravenswood, 1869–1873; Rockhampton Bulletin, 28 Jun 1870, p. 3, ‘Official notifications’; Ferguson, J. & Brown, E. (2009). *The Gympie Goldfield 1867–2008*. Gympie Regional Council: Gympie.

³³ Lynd River was named by Ludwig Leichhardt to honour Lieutenant Robert Lynd, his friend and financial supporter (Leichhardt 1847).

³⁴ Kirchner Range was named by Ludwig Leichhardt for William Kirchner, a supporter of his Overland Expedition (Leichhardt 1847).

³⁵ Gregory’s Bluff, a name given by William Hann, is not currently in use.

³⁶ Tate River was named by William Hann for Thomas Tate, botanist of the Expedition.

³⁷ Pint Pot Creek, a name given by William Hann, is not currently used in this area.

³⁸ Warners Peaks, Warners Range and Warners Gully were named by William Hann for Frederick Horatio Warner (1842–1906), surveyor of the expedition and discoverer of gold at Palmer River.

³⁹ Nonda Creek was named by William Hann because of the presence of the edible nonda tree, *Parinari nonda*.

⁴⁰ Walsh River was named by William Hann for William Henry Walsh (1823–1888), Queensland’s Secretary for Public Works 1870–1873.

⁴¹ Elizabeth Creek was named by William Hann for his youngest daughter Elizabeth Caroline (Lily) Hann (1868–1943), later Elizabeth Clarke.

⁴² Louisa Creek was named by William Hann for his eldest daughter Louisa Clark Hann (1861–1895), later Louisa Keppel.

⁴³ Mitchell River was named by Ludwig Leichhardt for Sir Thomas Livingstone Mitchell (1792–1855), New South Wales Surveyor-General 1828–1855 (Leichhardt 1847).

⁴⁴ The name Taylor’s Carboniferous Range is not in current use.

⁴⁵ Origin of name not recorded but possibly named by William Hann for Charles Lilley, Member of the Legislature Assembly, Attorney-General, and active law reformer: correctly Mt. Mulligan.

⁴⁶ Mt Mulgrave was named by William Hann after the Earl of Mulgrave, son of the Governor of Queensland, Marquess of Normanby.

⁴⁷ Garnet Creek was named by William Hann because of the large number of garnets found in the river sand.

⁴⁸ Mt Daintree was named by William Hann for Richard Daintree (1832–1878), Government Geologist for Northern Australia 1868–1870, Queensland’s Agent-General in London 1872–1876, and friend and business partner.

⁴⁹ Palmer River was named by William Hann for Arthur Hunter Palmer (1819–1898), Premier of Queensland 1870–1874.

⁵⁰ The derivation of Mt Jessie [near Palmer River] was not recorded. It is a different location to Jessies Tableland [near Coleman River], see later entry.

⁵¹ The derivation of Jessies Tableland [near Coleman River] was not recorded by William Hann.

⁵² The derivation of Coleman River was not recorded by William Hann.

⁵³ King River was named by James Venture Mulligan (Jack 1921).

⁵⁴ Mt Newberry (current spelling) was named by William Hann for James Cosmo Newbery (1843–1895), chemist of the Geological Survey of Victoria.

⁵⁵ Stewart River was named by William Hann after William Robert Stewart, one of the expedition members.

⁵⁶ Balclutha Creek was named by William Hann in dedication to his horse ‘Bal’ that ‘knocked up’ at this location.

⁵⁷ Normanby River was named by William Hann after the Governor of Queensland, Marquess of Normanby, George Augustus Constantine Phipps (1819–1890).

⁵⁸ Oaky Creek was named by William Hann because of the presence of She-oaks, *Casuarina cunninghamiana*.

⁵⁹ The derivation of Cunningham Range was not given by William Hann, but possibly named for the family that his sister, Caroline Sharp Cunningham (*née* Hann) married into.

⁶⁰ Annan River was named by John Jardine after the Annan River in Scotland (Jardine 1867).

⁶¹ Mt Thomas, if correctly identified by Tate, lies to the south of the mouth of Annan River. A more conspicuous mountain at 300 m taller is Mt. Amos, c. 4 km to the north-west. Origin of the name has not been determined.

⁶² Mt Cook was named by Philip Parker King (King 1826).

⁶³ Mt Pieter Botte was named by Captain Owen Stanley for its resemblance to Mt Pieter Botte in Mauritius (Stanley 1852).

⁶⁴ The tree kangaroo, *Dendrolagus lumholtzi*, was only seen by Jerry and no other expedition members. There was evidence of scratching on tree trunks whilst bones, supposedly of the animal, were collected in a native camp. The first scientific collections were made by Carl Lumholtz in 1883.

⁶⁵ Bloomfield River was named by Phillip Parker King (King 1826).

⁶⁶ Weary Bay was named by James Cook (Beaglehole 1955).

⁶⁷ Cape Tribulation was named by James Cook (Beaglehole 1955).

⁶⁸ Consultation Peak was a name given by William Hann to the location where the Expedition party agreed to retrace their steps northward and no longer proceed south through dense rainforest. It was also referred to as Cancellation Peak. Neither of these names has been taken up.

⁶⁹ Snapper Island was named by Charles Jeffreys (Gill 1978–1979).

⁷⁰ Andrews Range was named by William Hann for Charles T. Andrews, Second Officer of the brig *Maria*, a friend of Thomas Tate, and who drowned during the wreck of that ship on 26 Feb 1872. The *Maria* ran aground on Bramble Reef, about 35 km directly east of Hinchinbrook Island. Of the complement of about 75 passengers, there were only 40 survivors, including Tate; Queensland Times, 7 Mar 1872, p. 3, ‘The fate of the New Guinea expedition’; Queenslander, 13 Apr 1872, p. 8, ‘The New Guinea expedition (by one of the survivors [Thomas Tate]).’

⁷¹ Hearn River [Laura River] was named by William Hann for his wife’s family; Mary Burge Hann (*née* Hearn); Argus, 4 Nov 1859, p. 4, ‘Family notices’.

⁷² Mt Aplin was named by William Hann for William Aplin (1840–1891), friend, businessman, pastoralist and parliamentarian.

⁷³ Janes Tableland was named by Charles Jeffreys (Gill 1978–1979).

⁷⁴ Princess Charlotte Bay was named by Charles Jeffreys (Gill 1988).

⁷⁵ Mt Taylor was named by William Hann for Norman Taylor, geologist of the expedition.

⁷⁶ Thompsons Range was named by William Hann for John Malbon Thompson (1830–1908), Queensland's Secretary for Lands 1870–1873.

⁷⁷ Mt MacDevitt was named by William Hann for Edward O'Donnell MacDevitt (1843–1898), Member of the Queensland Legislative Assembly, and Member for Kennedy 1870–1873.

⁷⁸ Mt St George was named by William Hann for Howard St. George (1825–1898), Gold Commissioner for the Etheridge Goldfield 1870–1872: Telegraph, 11 May 1897, p. 2, 'Late Mr. Howard St. George'.